

### AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

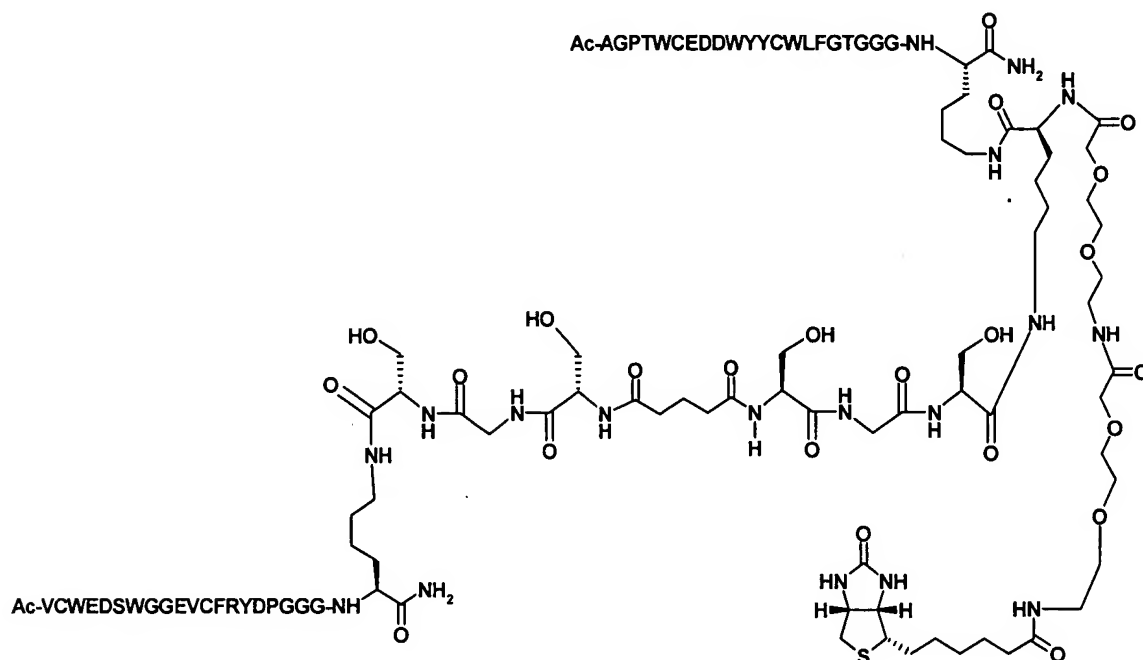
#### Listing of Claims:

1-65. (Canceled)

66. (Currently Amended) ~~The compound of claim 3, wherein said A~~ compound comprises comprising a dimer having the following formula:

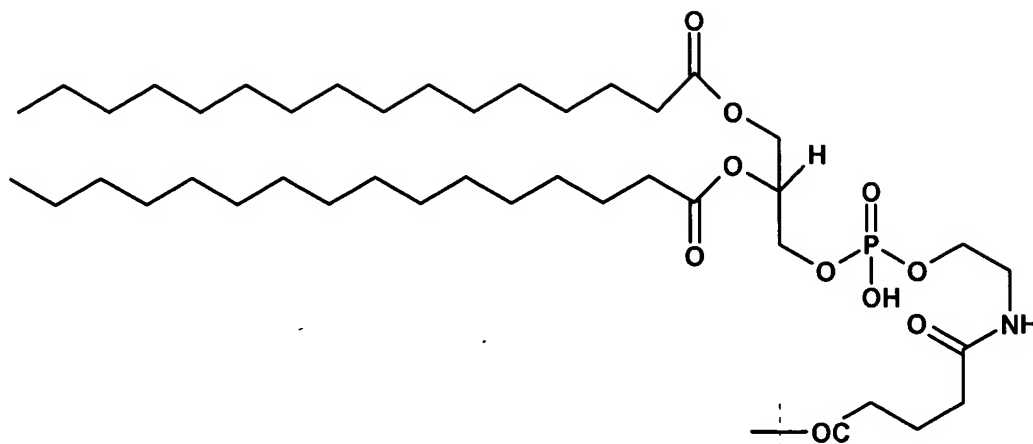


67. (Currently Amended) ~~The compound of claim 3, wherein said A~~ compound comprises comprising a dimer having the following formula:

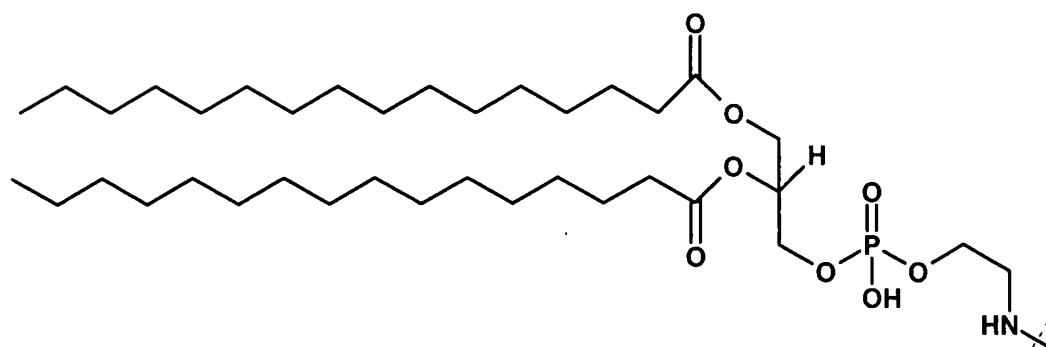


68. (Currently Amended) A diagnostic imaging agent comprising a compound of ~~any~~ of claims 1, 46, or 47 claim 66 or 67 conjugated to a microbubble or microballoon.

69. (Currently Amended) The imaging agent of claim ~~66~~ 68, wherein said microbubble or microballoon comprises a phospholipid comprising the formula:



or



70. (Currently Amended) The imaging agent of claim ~~66~~ 69, wherein said microbubble or microballoon comprises an biocompatible fluorinated gas selected from the group consisting of SF<sub>6</sub>, freons, and perfluorocarbons.

71. (Currently Amended) A diagnostic imaging method comprising the steps of:

- (a) administering to a patient a pharmaceutical preparation comprising a compound according to ~~any one of claims 1, 53, or 54~~ claim 66 or 67 conjugated to a detectable label; and
- (b) imaging the compound after administration to the patient.

72. (Currently Amended) The method of claim ~~69~~ 71, wherein the imaging step comprises magnetic resonance imaging, ultrasound imaging, optical imaging, sonoluminescence imaging, photoacoustic imaging, or nuclear imaging.

73. (Currently Amended) The method of claim ~~69~~ 71, wherein the administering step comprises inhaling, transdermal absorbing, intramuscular injecting, subcutaneous injecting, intravenous injecting, or intraarterial injecting.

74. (Currently Amended) A method of treating a disease, comprising the step of administering to a patient a pharmaceutical preparation comprising a compound of ~~claim 49-55~~ claim 66 or 67.

75. (Currently Amended) A method of treating a disease associated with angiogenesis, comprising the step of administering to a patient a pharmaceutical preparation comprising a compound of claim ~~28, 29 or 32-33~~ 66 or 67.

76-110. (Canceled)

111. (Currently Amended) A method of synthesizing a multimeric compound comprising at least two binding moieties having specificity for different binding sites on the same target, selected from the group consisting of ~~D1, D4, D5, D9, D10, D11, D12, D13, D14, D15, D16, D17, D18, D19, D20, D21, D22, D23, D24, D25, D26 and D27~~ D32 and D33, wherein the method comprises the steps set forth in Example 9.

112. (Canceled)

113. (New) The compound of claim 66 or 67, further comprising at least one labeling group or therapeutic agent.

114. (New) The compound of claim 113, wherein the labeling group or therapeutic agent comprises one or more paramagnetic metal ions or superparamagnetic particles, an ultrasound contrast agent, one or more photolabels, or one or more radionuclides.

115. (New) The compound of claim 114, wherein the paramagnetic metal ion is selected from  $\text{Mn}^{2+}$ ,  $\text{Cu}^{2+}$ ,  $\text{Fe}^{2+}$ ,  $\text{Co}^{2+}$ ,  $\text{Ni}^{2+}$ ,  $\text{Gd}^{3+}$ ,  $\text{Eu}^{3+}$ ,  $\text{Dy}^{3+}$ ,  $\text{Pr}^{3+}$ ,  $\text{Cr}^{3+}$ ,  $\text{Co}^{3+}$ ,  $\text{Fe}^{3+}$ ,  $\text{Ti}^{3+}$ ,  $\text{Tb}^{3+}$ ,  $\text{Nd}^{3+}$ ,  $\text{Sm}^{3+}$ ,  $\text{Ho}^{3+}$ ,  $\text{Er}^{3+}$ ,  $\text{Pa}^{4+}$ , and  $\text{Eu}^{2+}$ .

116. (New) The compound of claim 114, wherein the labeling group or therapeutic agent further comprises a chelator.

117. (New) The compound of claim 116, further comprising gadolinium (III).

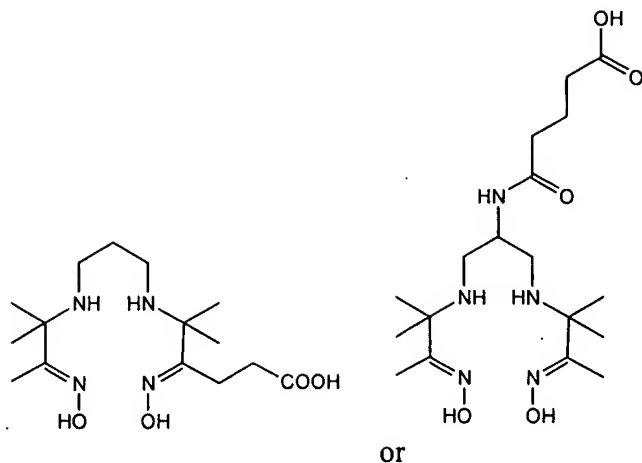
118. (New) The compound of claim 116, wherein the chelator comprises DTPA, DOTA, EDTA, TETA, EHPG, HBED, NOTA, DOTMA, TETMA, PDTA, TTHA, LICAM, or MECAM.

119. (New) The compound of claim 116, wherein the chelator comprises diethylenetriamine pentaacetic acid, tetraazacyclododecane triacetic acid, or a carboxymethyl-substituted derivative thereof.

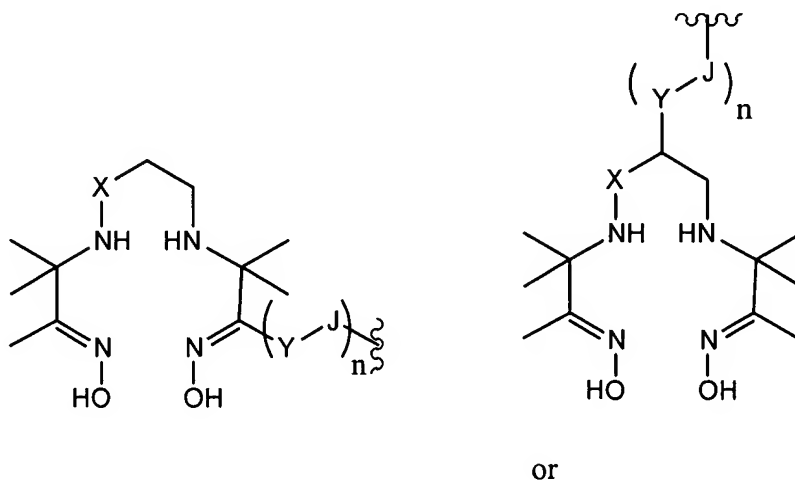
120. (New) The compound of claim 116, wherein the chelator is 1-substituted 1,4,7,10-tricarboxymethyl 1,4,7,10-tetraazacyclododecane triacetic acid (DO3A).

121. (New) The compound of claim 114, where the radionuclide is  $^{18}\text{F}$ ,  $^{124}\text{I}$ ,  $^{125}\text{I}$ ,  $^{131}\text{I}$ ,  $^{123}\text{I}$ ,  $^{77}\text{Br}$ ,  $^{76}\text{Br}$ ,  $^{99\text{m}}\text{Tc}$ ,  $^{51}\text{Cr}$ ,  $^{67}\text{Ga}$ ,  $^{68}\text{Ga}$ ,  $^{47}\text{Sc}$ ,  $^{51}\text{Cr}$ ,  $^{167}\text{Tm}$ ,  $^{141}\text{Ce}$ ,  $^{111}\text{In}$ ,  $^{168}\text{Yb}$ ,  $^{175}\text{Yb}$ ,  $^{140}\text{La}$ ,  $^{90}\text{Y}$ ,  $^{88}\text{Y}$ ,  $^{153}\text{Sm}$ ,  $^{166}\text{Ho}$ ,  $^{165}\text{Dy}$ ,  $^{166}\text{Dy}$ ,  $^{62}\text{Cu}$ ,  $^{64}\text{Cu}$ ,  $^{67}\text{Cu}$ ,  $^{97}\text{Ru}$ ,  $^{103}\text{Ru}$ ,  $^{186}\text{Re}$ ,  $^{188}\text{Re}$ ,  $^{203}\text{Pb}$ ,  $^{211}\text{Bi}$ ,  $^{212}\text{Bi}$ ,  $^{213}\text{Bi}$ ,  $^{214}\text{Bi}$ ,  $^{105}\text{Rh}$ ,  $^{109}\text{Pd}$ ,  $^{117\text{m}}\text{Sn}$ ,  $^{149}\text{Pm}$ ,  $^{161}\text{Tb}$ ,  $^{177}\text{Lu}$ ,  $^{198}\text{Au}$  or  $^{199}\text{Au}$ .

122. (New) The compound of claim 121, further comprising a compound having a structure selected from the following:



123. (New) The compound of claim 121, further comprising a compound having a structure selected from the following:

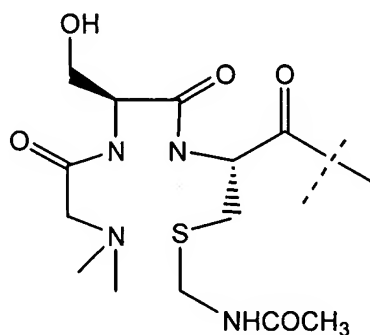


where X is CH<sub>2</sub> or O;

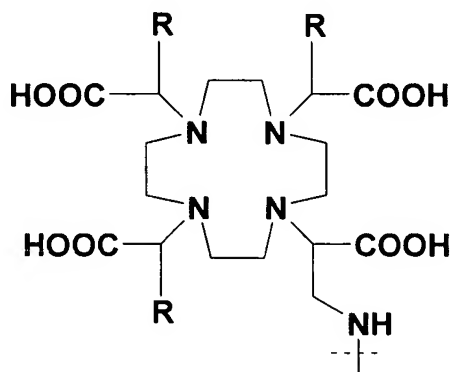
Y is C<sub>1</sub>-C<sub>10</sub> branched or unbranched alkyl, aryl, aryloxy, arylamino, arylaminoacyl, or aralkyl comprising C<sub>1</sub>-C<sub>10</sub> branched or unbranched alkyl groups, C<sub>1</sub>-C<sub>10</sub> branched or unbranched hydroxy or polyhydroxyalkyl groups or polyalkoxyalkyl or polyhydroxy-polyalkoxyalkyl groups;

J is C(=O)-, OC(=O)-, SO<sub>2</sub>-, NC(=O)-, NC(=S)-, N(Y), NC(=NCH<sub>3</sub>)-, NC(=NH)-, N=N-, a homopolyamide or a heteropolyamine derived from synthetic or naturally occurring amino acids;  
and n is 1-100.

124. (New) The compound of claim 121, further comprising a compound having the following structure:



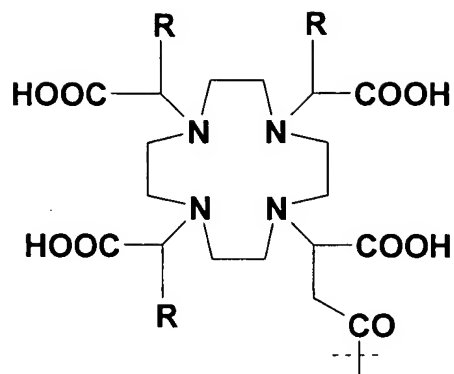
125. The compound of claim 122 or 123, further comprising <sup>99m</sup>Tc, <sup>186</sup>Re, or <sup>188</sup>Re.



126. (New) The compound of claim 124, further comprising <sup>99m</sup>Tc.

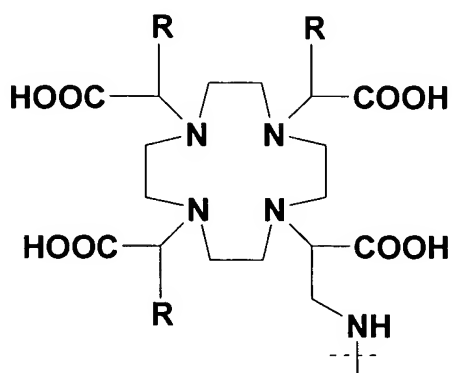
127. (New) The compound of claim 121, further comprising a compound having the following structure:





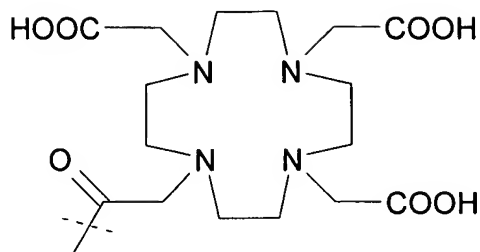
where R is an alkyl group.

128. (New) The compound of claim 121, further comprising a compound having the following structure:



where R is an alkyl group.

129. (New) The compound of claim 121, further comprising a compound having the following structure:



130. (New) The compound of claim 127, 128 or 129, further comprising  $^{177}\text{Lu}$ ,  $^{90}\text{Y}$ ,  $^{153}\text{Sm}$ ,  $^{111}\text{In}$ , or  $^{166}\text{Ho}$ .

131. (New) The compound of claim 113, further comprising a linker between a binding moiety and the labeling group or therapeutic agent.

132. (New) The compound of 131, wherein the linker comprises a substituted alkyl chain, an unsubstituted alkyl chain, a polyethylene glycol derivative, an amino acid spacer, a sugar, an aliphatic spacer, an aromatic spacer, a lipid molecule, or combination thereof.

133. (New) The compound of claim 113, wherein the therapeutic agent comprises a bioactive agent, a cytotoxic agent, a drug, a chemotherapeutic agent, or a radiotherapeutic agent.